

ASSESSMENT AND PRIORITIZATION OF ABANDONED MINING EXPLORATION SITES IN NUNAVIK

By M. Barrett¹, R. Lanari², J. Brunelle³, L. Olivier⁴ and S. Tukkiapik⁵

Presentation Abstract Community

The project addresses the important environmental issue of abandoned mining exploration sites in Nunavik and their impacts on the ecosystems. The region covered lies north of the 55th parallel in Northern Quebec, which is named Nunavik.

A previous review of existing oral and written information on mining exploration sites in Nunavik abandoned before 1976 identified some 600 potential sites. The goal of the project was the *on site* validation of this information and the prioritization of the abandoned mining sites in regards to their environmental disturbance. It includes the preparation of a list of equipment, buildings, barrels, objects and products found on each site, the evaluation of the soil and surface water contamination, the site classification, the compilation of a prioritized list of sites and recommendations on remedial measures to be undertaken on the sites.

The first phase of the project in the summer 2001 was conducted in the northernmost part of Ungava and Labrador Troughs, in the surrounding of five Inuit communities: Tasiujaq, Aupaluk, Kangirsuk, Kangiqsujaq and Salluit. During this phase, a sample of 59 sites were visited and evaluated, and information was gathered on 41 other sites. Of this total, 15 sites were classified as "major sites" considering the risk they pose to the environment. The volume and the area covered by debris and abandoned equipment were also considered. Then, 22 sites were classified as "intermediate" and 22 as "minor" sites. The 41 other sites were either not located or the materials had been removed in the period following the observations made by the informants. This classification is based on a list of criteria adapted from the National Classification System for Contaminated Sites, including the assessment of soil and surface water contamination, and the volume and area covered by material and equipments present on the sites.

The second phase of the project in the summer 2002 will be conducted in the southernmost part of Nunavik. Results will be available during the fall of 2002.

The major sites contain abandoned buildings, heavy equipment, fuel barrels, some of which contain residues, and contaminated soil; batteries and transformers were also present. It is recommended that a prioritized list be compiled for remedial work on these sites based on the environmental risks. The work should include the removal and transportation in an approved disposal site of the chemical products, batteries, transformers and soil contaminated with metals; these latter represent only small

¹ M. Barrett: Kativik Regional Government, P.O. Box 59, Kuujjuak, Qc J0M 1C0 mbarrett@krg.ca

² R. Lanari: Makivik Corporation, 3333 Place Cavendish, 3rd Floor, Ville St. Laurent, Qc H4M 2X6
r_lanari@makivik.org

³ J. Brunelle: Paul F. Wilkinson & Associates Inc. 5800 Monkland Ave., 2nd floor, Montréal, Qc H4A 1G1
brunelle@wilkinson.ca

⁴ L. Olivier: Environment Canada, 105 McGill Street, 4th floor, Montréal, Qc H2Y 2E7
Lucie.Olivier@ec.gc.ca

⁵ S. Tukkiapik : Kativik Regional Government, P.O. Box 59, Kuujjuak, Qc J0M 1C0 satukkiapik@krg.ca

volumes. *On site* bioremediation techniques should be applied to soil contaminated with hydrocarbons.

The characterization project for the sector between Kuujjuaq and Kawawachikamach will be completed in the summer of 2002. Based on these results, it will be possible to extrapolate the total number of sites in Nunavik and the risk to the environment. At the same time the prioritized list will be finalized.

The project validated the methodology of integrating interviews of local key informants with archival documentation. It showed that informant data were more reliable than archival documentation in regions where territory was well known from Inuit communities. In certain areas, limited summer access, complex topography and numerous sites require a systematic aerial survey in addition to the community interviews.

It also indicated that recent mining exploration campaigns carried out in Nunavik were not free from environmental impacts. A comprehensive demobilization by mining companies is required after these activities in order to protect the sensitive arctic and subarctic ecosystems.

10 May 2002